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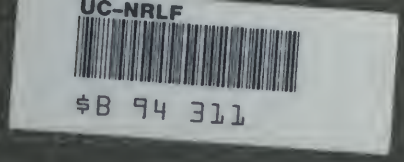

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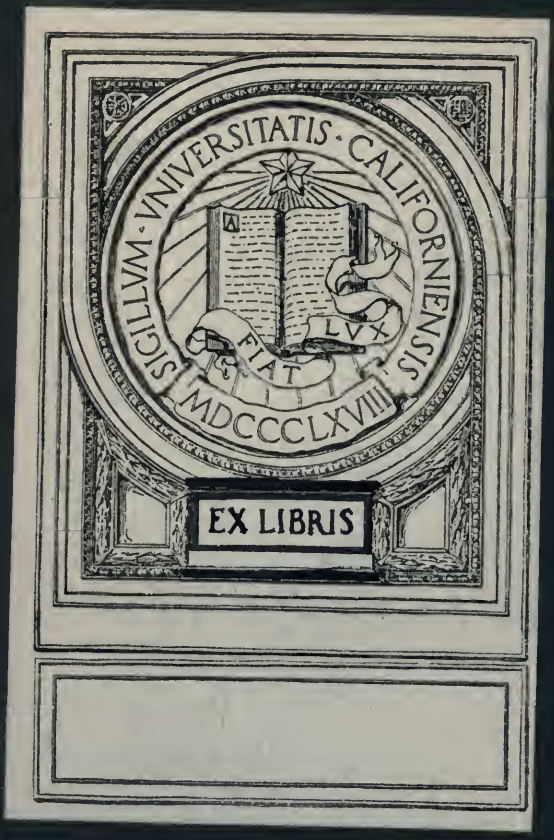
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The Rise in Prices and The Cost of Living:

An Enquiry into its Extent and Causes.

BY

W. J. ASHLEY,

M.A.; Hon. Ph.D. Berlin;

Professor of Commerce in the University of Birmingham.

LONDON:

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PREFACE.

The following paper was written in September, 1910, at the request of the Editor of the Evening News, and appeared in that journal in the issues for October 3-7, 10-12. In now preparing, at the Editor's desire, for its republication in pamphlet form, I have thought it best to make no change in the text itself beyond a few verbal corrections. But in the notes I have added such necessary subsequent figures as have since become available. And I have ventured, also in the notes, to make some additions to the substance of the paper. Of a rise of prices in this country amounting, between 1896 and 1911, to some 24 per cent., I have suggested a reason for believing that the share to be assigned to the influence of the new gold supply has been somewhere about 16. I have pointed out that gold supplies probably affect prices, in the first instance, by their entrance into bank reserves; and that that effect is probably most marked in the earlier years of the supply.

Readers who wish to carry further their study of recent price movements will be glad to have their attention called to the "History of the *Economist* Index Number" in *The Economist* for August 26, 1911 (8d.), and to the paper on "The Course of Prices at Home and Abroad, 1890-1910," by Mr. R. H. Hooker, of the Statistical Department of the Board of Agriculture, in the *Journal of the Royal Statistical Society* for December, 1911 (2s. 6d.). The Board of Trade Index Numbers of Employment, Wholesale Prices, and Food in London are given in the annual *Abstract of Labour Statistics*, together with a good deal of other information as to the movement of Wages and of Wheat and Bread Prices. The *Fourteenth Abstract*, the last issued (1911), bears the dates 1908-9, but really includes in these respects the 1910 figures (1s. 4d.). The 1911 Index Figures for Wholesale and for Retail Food Prices, together with the other figures of these two series, will be found in the *Board of Trade Labour Gazette for January*, 1912.

January 25, 1912.

The Rise in Prices and the Cost of Living.

Section I.

The Facts of the Situation.

1. The Rise in Retail Food Prices.

1.—There is an outcry to-day, in most of the civilised countries of the world, that the cost of living is seriously increasing. If true, this is a fact of the utmost consequence. It is my purpose, in the following series of articles, first, to set forth the actual facts of the situation; secondly, to consider the possible causes; and, thirdly, to draw some conclusions.

Let us begin with the one article of food that every family has to buy—viz., bread. We all know that, during the last two years[1] bread has been continuously a good deal more expensive than for some time before. There are so many qualities, and so many varying local conditions, that it is not easy to put this fact into a brief statistical form. But here are the conclusions of the statisticians of the Board of Trade as to the average price of bread per 4lb. at the working-class co-operative stores which are scattered so widely over the country. By the side of the general average for Great Britain I have placed the special average for London; and in the last column I have placed the average price of British wheat per quarter :—

TABLE I.

AVERAGE PRICE OF BREAD PER 4LB., AND AVERAGE PRICE OF BRITISH WHEAT PER QUARTER.

	Bread. Gt. Britain.	Bread. London.	Wheat.
	d.	d.	s. d.
1900	4.99	5.23	26 11
1901	5.12	5.17	26 9
1902	5.09	5.20	28 1
1903	5.18	5.27	26 9
1904	5.39	5.50	28 4
1905	5.45	5.53	29 8
1906	5.27	5.30	28 3
1907	5.48	5.36	30 7
1908	5.87	5.81	32 0
			Quarterly Av.
1909, March 1	5.88	5.84	33 11
,, June 1	6.38	6.44	44 1
,, Sept. 1	6.43	6.44	40 3
,, Dec. 1	6.18	5.94	32 5
1910, March 1	6.14	5.94	33 1
,, June 1	6.01	5.94	31 8[2]

[1] 1909-10.

This table is worth careful consideration. It gives an average in terms of pence and decimal parts of a penny. Of course people never do pay exactly fourpence and ninety-nine hundredths of a penny for a four pound loaf. What that figure really means is that most people in 1900 paid fivepence, but enough paid fourpence halfpenny to reduce the average by the hundredth part of a penny below fivepence. All the other figures in the two columns are to be interpreted in the same way; and thus we are able to present to our minds the general movement over the whole country, balancing the places where people paid a little more against the places where they paid a little less. And the total result shows us that, though the most general and evident rise took place in the summer of 1909 (since when there has been a return to the bread prices of 1908), the rise had begun some time before. It is pretty evident that the upward movement commenced as early as 1903, only interrupted for a short time in 1906. And the figures for the price of British wheat show that, during and since 1904, the increased price of bread has been roughly parallel to the increased price of corn. The connection between wheat prices and bread prices is a complicated subject about which a good deal could be said. But it is obvious that the fundamental cause of the increase in the cost of bread has been the higher price of its materials.

So much then for bread. What has been the case with other articles of food? We know, most of us only too well, that just now[3] bacon is extraordinarily dear. But while some articles have been going up in price, other articles have been going down. Thus in 1908 bacon, pork, and cheese, eggs, sugar, and rice all declined in price while bread, beef, mutton, butter, potatoes, and oatmeal all went up. In 1909, on the contrary, mutton, butter, potatoes, and oatmeal all went down again, while bread and bacon and pork went up. How are these ups to be balanced against these downs? The

	Bread. Gt. Britain.	Bread. London.	Wheat.
	d.	d.	s. d.
2.—1910, Sept. 1	5.91	5.88	31 10
,, Dec. 1	5.87	5.69	30 3
1911, March 1	5.83	5.50	30 4
,, June 1	5.67	5.44	31 5
,, Sept. 1	5.69	5.50	31 11
,, Dec. 1	5.79	5.50	32 11

[3] *i.e.*, September, 1910.

device the statisticians employ for this purpose is what is known as an "Index Number." To some people this is rather a terrifying term. It has even been hinted that there are many members of Parliament who do not know what an index number is. But it is not really difficult to understand. Take the leading articles of food and ascertain their prices in the years which you seek to compare. Instead of writing down for the first or standard year the actual prices for the commodities A, B, C, D, E, or whatever the number may be, write under each 100, thus :

A	B	C	D	E
100	100	100	100	100

Then, if the price of A for the second year is sixpence instead of a shilling, put down under A for the second year 50, and so on. Supposing the proportions of prices happen to be as follows :

A	B	C	D	E
100	100	100	100	100
50	40	120	75	50

You can add these up :

A	B	C	D	E	
100	100	100	100	100	= 500
50	40	120	75	50	= 335

and say that the prices in the second year stand to the prices in the year you took as your standard or starting point in the proportion of 335 to 500. It is usual to reduce the figures to the basis of 100—which means in this case simply dividing by five. The proportion of 335 to 500 is the proportion of 67 to 100. Here, then, 67 is an "index number," *i.e.*, it is a number which indicates in a brief form the relation to one another of two series of figures which are too confusing in themselves to give any clear impression.

Now the Board of Trade has calculated an index number showing the relative change in the retail prices of twenty-three of the principal articles of food in London since 1895. And, to make assurance doubly sure, this is a *weighted* index number. The twenty-three commodities are obviously not all of the same practical importance to a working class family. Careful investigations have been made as to the expenditure of a working class family, with the result that statisticians have a very fair idea of the relative importance of bread and meat and milk and tea and the rest in the housewife's budget. Accordingly, what the Board of Trade statisticians have done is to give the several price quotations from which they make up their index number the relative importance or "weight" which belongs to each particular article in the actual life of the people.

The details of the calculation are rather complex. But the arithmetical principle on which it rests is as simple as that of the index number itself; and as a great deal will be heard in the politics of the future of index numbers weighted and unweighted, it is worth while taking a little trouble to understand them. If some of the men in a room were six feet high and the rest were five feet, we should not jump to the conclusion that the average height of the men was 5ft. 6in. We should ask how many there were of each height. If there were three of 6ft. and two of 5ft. we should, of course, multiply six by three and five by two, and divide by the total number and arrive at an average of 5ft. 7 1-5in. In other words we have in our calculation given 6ft. the relative importance or "weight" of three, and 5ft. the "weight" of two. We have multiplied each figure of height by its "weight" and divided by the sum of the "weights." This is precisely what the Board of Trade has done with its food prices. It has multiplied each (or the index number representing it, which comes to the same thing) by a number or weight representing its relative importance, and divided by the sum of the weights.

In the following table the prices of the year 1900 are taken as the standard of comparison and called 100.

TABLE II.

PERCENTAGE VARIATIONS OF RETAIL PRICES OF FOOD IN LONDON.

1895.....	93.2	1903.....	103.2
1896.....	92.0	1904.....	104.3
1897.....	96.2	1905.....	103.7
1898.....	100.8	1906.....	103.2
1899.....	96.4	1907.....	105.8
1900.....	100.0	1908.....	108.4
1901.....	101.9	1909.....	108.2 [4]
1902.....	101.6		

The cost of food, it thus appears, was more than 8 per cent. higher in 1908-9 than in 1900. But the prices of 1900 were about the same amount above those of 1896. If 1896 had been taken as the standard, the figures for 1909 would have worked out at something over 117.

The general character of the movement of prices will be shown readily by the following

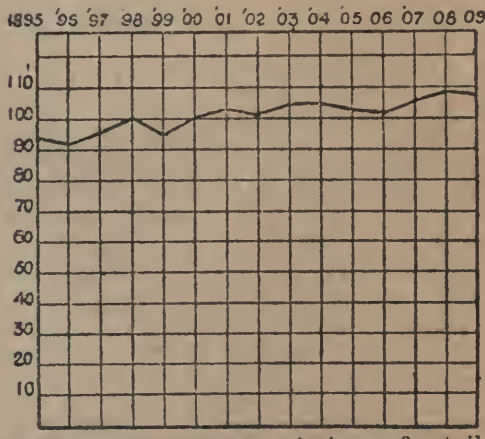

CHART I—Percentage variations of retail prices of food in London, 1895-1909.

[4] 1910 ..... 109.9
1911 ..... 109.3

This last figure is almost 19 per cent. above that for 1896.

A moment's inspection of this chart shows that on the whole there has been a pretty steady upward movement of food prices in London ever since 1896, though the high prices of 1898 seemed to be temporary and were not maintained in the following year. London in this respect was probably fairly representative of the whole country.

2. The Increase in General Living Expenses

But though food is the chief item in the cost of living—representing on the average perhaps a little under two-thirds of the total working class expenditure—it is conceivable, though not probable, that the increased cost of food might be outweighed by a lessening cost of house-room, clothing, and fuel. There has, I believe, been no statistical investigation of the problem during the last six years. But in 1906 the Board of Trade issued the results of an elaborate inquiry for the whole period from 1880 to 1903. It ascertained the changes in rent and in the cost of clothing and fuel, as well as the relative proportions of the expenditure on these several items in families in various degrees of comfort and poverty in all the large towns of Great Britain. And it based its final series of figures on the reasonable assumption that food took 7-12ths, rent 2-12ths, clothing 2-12ths, and fuel and light 1-12th of the expenditure on these items all taken together. It will not be necessary to give the table of figures; the total result is brought out more clearly to the eye by the following chart :—

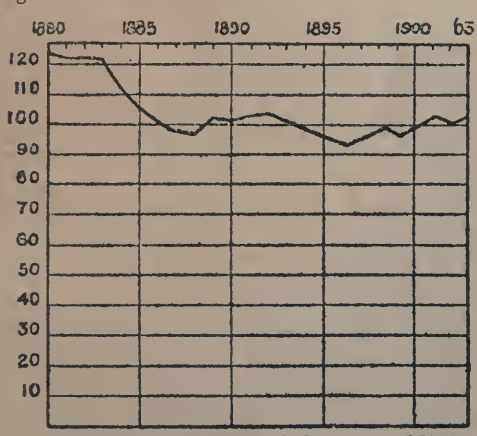

CHART II.—Variations of the cost of living of the working classes in large towns, 1880-1903.

We see from this chart that, for the period common to it with Chart I., *i.e.*, from 1895 to 1903, the increase in the total cost of living was to all intents and purposes the same as the increase in the cost of food alone. The method of the two calculations was not precisely the same; some of the items which went to make up the second chart were to a slight extent conjectural; and therefore no conclusion can safely be drawn from a divergence of one or two per cent. here and there. It is the general similarity of the conclusions—the substantial identity of the food curve and the cost of living curve between 1895 and 1903—that is significant. And there is a strong presumption that the same has been true of the years since 1903, and that the increased cost of food has not been counterbalanced to any appreciable extent by a fall in the other necessaries of life.

That a similar increase of household expenses is going on in other countries we should infer from the prevalence of complaint. And the impression is confirmed by statistics. According to Herr Calwer, one of the best-known and most competent of German statisticians, the cost of living rose in Germany from 1895 to 1908 by some 27 per cent. Food alone rose in Germany between 1896 and 1907, according to a recent Board of Trade estimate, by some 22 per cent. The same authority estimates a somewhat greater rise of food prices in New York. And an estimate recently quoted by the Canadian Minister of Labour makes the increased cost of living in the Dominion of Canada for incomes of the working-class level between 1897 and 1907 somewhere between 30 and 35 per cent.

No general conclusion for or against the commercial policy of any of the countries concerned can be safely based on a comparison of these figures taken by themselves. Before attempting anything of that sort, one would have to compare with the movement of prices the movement of wages in each of the countries; and one would need in each case to take into account the whole trend of the industrial development. But the figures are sufficient to prove the universality of the main forces that are at work —whatever they may be.

3. The Rise in Wholesale Prices.

To fully appreciate the situation, however, it is necessary now to observe that the increased cost of living, caused by a rise in the retail prices of the articles entering into working-class consumption, does not stand by itself. Side by side with it there has been a rise in the average level of the wholesale prices of commodities in general.

The statistical ascertainment of the precise amount of change in the level of general prices is naturally a very difficult task; and experts still differ as to which is the ideally best system of measurement. There is the preliminary question concerning the kind and number of articles for which we shall obtain price quotations, for it is evident that some selection must be made. I shall not attempt to settle this question; it will be enough for my purpose to set down three well-known sets of English index numbers, drawn up in different ways, but all pointing to the same general conclusion.

The most generally quoted of the three is that prepared annually by the *Economist* newspaper for more than half a century. This is the result of a comparison of the prices of twenty-two leading commodities with their average prices in the six years 1845-50. As each of the average

prices for the standard period is called 100, the initial number with which all the others have to be compared is 2,200; but, of course, by dividing by 22, it is easy to reduce the whole series to a percentage basis. Accordingly that has been done in the following table :—

TABLE III.

THE "ECONOMIST" INDEX NUMBERS FOR WHOLESALE PRICES.

1845-50	.....	2200	100
1890 Jan. 1	.....	2236	101
1891 „	.....	2224	101
1892 „	.....	2133	97
1893 „	.....	2120	96
1894 „	.....	2082	94
1895 „	.....	1923	87
1896 „	.....	1999	90
1897 „	.....	1950	89
1898 „	.....	1890	86
1899 „	.....	1918	87
1900 „	.....	2145	97
1901 „	.....	2126	96
1902 „	.....	1948	88
1903 „	.....	2003	91
1904 „	.....	2197	99
1905 „	.....	2136	97
1906 „	.....	2342	106
1907 „	.....	2499	113
1908 „	.....	2310	105
1909 „	.....	2197	99
1910 „	.....	2390	108 [5]

Before we comment upon this, let us compare it with the other well known non-official estimate, that of the distinguished statistician Mr. Sauerbeck, which is published from time to time in the *Journal of the Royal Statistical Society*. This is based upon the prices of forty-five leading commodities, and takes for its standard (called 100) the average for the prices of 1867-1877.

TABLE IV.

MR. SAUERBECK'S INDEX NUMBERS FOR WHOLESALE PRICES.

1867-1877 ...	100	1900.....	75
1890.....	72	1901.....	70
1891.....	72	1902.....	69
1892.....	68	1903.....	69
1893.....	68	1904.....	70
1894.....	63	1905.....	72
1895.....	62	1906.....	77
1896.....	61	1907.....	80
1897.....	62	1908.....	73
1898.....	64	1909.....	74 [6]

[5] 1911, Jan. 1 ..... 2503 114

In February, 1911, the *Economist* introduced a number of other commodities into its calculation, and took as its new basis the average for the years 1901-5. On this basis it arrives at the following index numbers :—

Jan. 1, 1896	90
„ 1911	114
Dec. 31, 1911	117½

[6] 1910..... 78
1911..... 80 (provisional figure).

As the eye runs down the columns of figures, it may not perhaps at once make out any general tendency. I have, therefore, plotted them down on the accompanying chart, where their meaning is at once apparent :—

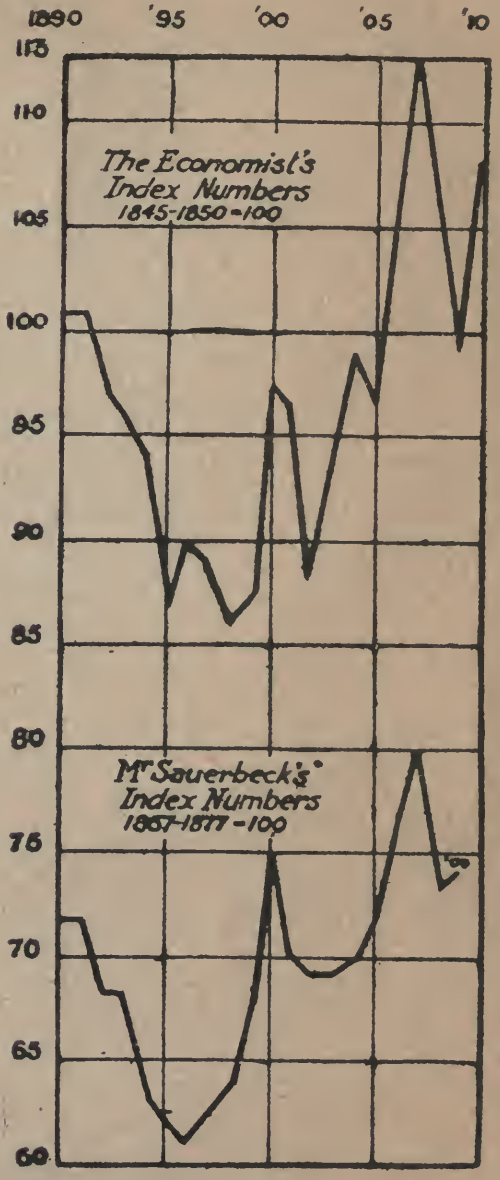

CHART III.—The level of wholesale prices (1890-1910) according to "The Economist" and Mr. Sauerbeck.

It must be borne in mind that Mr. Sauerbeck's figures are not precisely comparable to those of the *Economist* since the latter are based on the prices of January 1 in each year, while Mr. Sauerbeck's prices are averages for the whole year. Moreover they take very different periods as their standards of comparison. But it is not necessary for our present purpose to recalculate either set to make it correspond more closely to the other. Their simple juxtaposition as in the chart is sufficiently instructive. Both show that the level of price was low in the latter half of the nineties, though one marks 1896 and the other 1898 as the lowest point reached. Both show an upward movement since 1898—not a continuous advance, but, as it were, a series of leaps over intervening hollows—1900 and 1907 representing, in each series of figures, the maximum points.

These calculations of the *Economist* and of Mr. Sauerbeck, invaluable as they are for comparisons extending over a long period, now no longer represent the most finished products of statistical skill. For the years since 1871 the place of highest authority must be taken by the index numbers which the Board of Trade began to calculate in 1903, and now publishes year by year in its *Labour Gazette*. This is based on the same number of commodities as Mr. Sauerbeck's, though they are not precisely identical in character, and the prices taken are principally import and export values, while those of Mr. Sauerbeck (like those of the *Economist*) are market values. But the chief difference is of another kind. It is that the two other index numbers are in the main unweighted averages, such indirect weighting as does take place being due to the selection of commodities to be represented. But the Board of Trade index figure is the result of an elaborate system of intentional weighting, whereby each commodity is given an importance proportionate to the extent to which it enters into the national consumption. The principle, it will be seen, is precisely the same as that carried out in drawing up the index number for retail food prices. In the one case it is the place of the commodity in the budget of the working-class family, in the other case its place in the budget of the nation that is made the criterion of its importance. In both calculations the prices of the year 1900 are taken as the point from which to measure and called 100. I will first give the figures themselves from 1890 onward for comparison with the other two sets (though the difference in the standard year must be constantly borne in mind), and then I will give a chart for the whole period since 1871. To this chart I shall have occasion to make frequent reference.

TABLE V.

BOARD OF TRADE INDEX NUMBERS FOR WHOLESALE PRICES, 1900 = 100.

1890.....	104.0	1900.....	100.0
1891.....	107.4	1901.....	96.9
1892.....	101.8	1902.....	96.5
1893.....	100	1903.....	96.9
1894.....	94.2	1904.....	98.3
1895.....	91.0	1905.....	97.6

TABLE V.—(*contd.*)

1896.....	88.2	1906.....	100.5
1897.....	90.1	1907.....	105.7
1898.....	93.2	1908.....	102.8
1899.....	92.3	1909.....	104.0 [7]

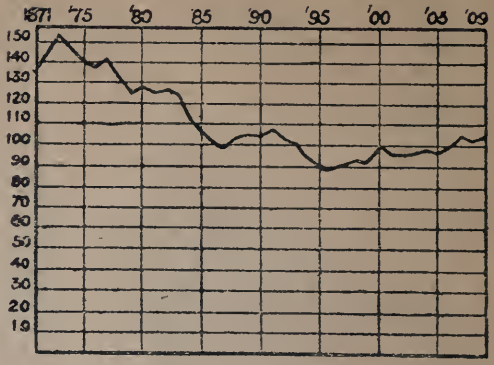

CHART IV.—The level of wholesale prices (1871-1909) according to the Board of Trade weighted index numbers.

The construction of even this chart is open to a certain criticism. For instance, the importance assigned to the several commodities is made to depend on their relative consumption in the period 1881—1890, though the consumption was probably not exactly the same either before 1881 or after 1890. The ideal would be a series of "weights" calculated afresh for every year according to the consumption of that year. Still, the variations in consumption are not likely to affect seriously the comparison over a period of only forty years; and this is as exact a statistical statement as we are likely to get. And looking at it carefully, we find that the method of weighting brings out pretty clearly the conclusions (1) that 1896 is to be taken as the year in which prices reached their lowest point; and (2) that since that date the upward movement of prices—a rise of some 18 per cent. by 1909 [8]—has been much steadier and less characterised by sharp rises and falls than either the *Economist's* or Mr. Sauerbeck's figures would indicate. The amount of the increase by 1909 was substantially the same as in London food prices. (Chart I.)

And like the rise in the cost of food, the rise in the general level of wholesale prices has taken place in all the great countries of Europe and America. In some other countries it has been more considerable than in England. According to the index numbers prepared by *Bradstreet's*—one of the leading financial journals of the United States—the lowest point was reached in that country, as in England, in 1896, and the increase from the average of that year to the

[7] 1910..... 108.8
1911..... 109.3

[8] Almost 24 per cent. by 1911.

average of 1909 was about 47 per cent. As in England, the prices of 1908 and 1909 were somewhat below those of 1907. A recent report of the United States Bureau of Labour takes for its standard the average price from 1890 to 1899 (much higher, of course, than the price for 1896), and shows a rise above that average of some 29 per cent. in 1907 and of some 26 per cent. in 1909. In Canada the increase by 1909 is estimated by the Department of Labour as 21 per cent. over the average of 1890-1899 and 31 per cent. above the prices of 1896.

Section II.

The Probable Causes.

1. Effect of Supply and Demand on Prices.

My readers doubtless feel that they have had enough figures. The situation is by this time pretty clear; and we must now go on to consider what it may be due to. Our international comparisons have at least made one point clear —that it is not likely to be due to causes affecting only one country. For instance, in Germany just now the Socialists are attacking the protective tariff as the cause of increasing household expenses. In America it is the Trusts that are the objects of popular indignation. Now I am one of those who regard neither Protection nor a Trust as in itself necessarily bad. On the other hand, I am not in the least concerned to defend every feature in the German protective policy or every measure adopted by American trusts. It is quite possible that some part of the heightened cost of living may be due to the protective tariff in Germany and to the trusts in America; how much it is impossible to say off hand. But even if one knew exactly how much was due to either cause, we should not be bound to condemn protection or trusts to that particular extent, for *high prices are not necessarily bad things*. As we shall see later, high prices may go along with national prosperity, and low prices along with general depression. It may be better to have abundant and well-paid employment with general high prices than scanty and ill-paid employment with general low prices. But this is not my present point. Protection or trusts may do much or little in Germany and America; but it is highly improbable that they can entirely account for the rise in prices even there, since a rise certainly half as great has taken place in England, which has no protective tariff, and where such trusts as exist are relatively very weak. Our present concern, however, is not with other countries; it is the 18 per cent.[9] rise in England that we must seek to account for.

Before we look round for a *general* explanation we naturally ask ourselves whether we cannot find a sufficient number of *particular* explanations —whether the total result is not simply the result of a number of market conditions each affecting some one commodity. The most frequent and immediate cause of a change in price is some variation in the relations of supply and demand. Price goes up when supply falls off in relation to demand, either by positive decline in quantity or in comparison with a growing demand. And if we take the most vital of all commodities—wheat—first, we may find in a shortage of supply a large part of the explanation of the price movements of certain years. After a world's wheat crop in 1906 which is the highest on record, the figures for 1907 show a considerable decline. And the price did certainly rise in that year. The price rose still more notably in 1909, and in that year there was not a world shortage, but a shortage so far as England was concerned for a few months. What happened in that year was a marked deficiency in supplies from the United States. The deficiency was ultimately made up, as the Report of the Board of Agriculture tells us, by supplies from Russia, India, and Australia, but only under the impulse of a substantial rise of price in the summer. The operations of Mr. Patten, the speculator, would seem to have had little, if anything, to do with producing the rise, either here or in America, though he made a fortune out of his shrewd forecast of the state of supply.

But though fluctuations in the supply may help to account for price variations in particular years, there is no clear reason for believing that the *general upward trend* of the last seven years is the result merely of demand outstripping supply. With ups and downs in particular years, the world's wheat crop has in all probability quite kept pace on the whole with the increased number of wheat consumers. One of the most reliable estimates makes the wheat supply about 281 million quarters on an average of 1888-1890, and about 406 million quarters on an average of 1906-1908. The statisticians of the Board of Agriculture calculate that of the 240 million acres under wheat in the world in 1908, as many as 45 millions had been added during the previous fifteen years. And even as applied to particular years, the explanation based on supply is perhaps as often as not inapplicable. Here are the figures given by Mr. Layton in a recent Journal of the Royal Agricultural Society (based apparently on the estimates of the United States Department of Agriculture) :—

TABLE VI.

Estimated World's Wheat Crop in Millions of Quarters.

1888.....	283	1899.....	328
1889.....	273	1900.....	332
1890.....	288	1901.....	347
1891.....	309	1902.....	396
1892.....	314	1903.....	407
1893.....	319	1904.....	395
1894.....	327	1905.....	416
1895.....	305	1906.....	429
1896.....	298	1907.....	393
1897.....	286	1908.....	397
1898.....	366		

[9] 24 per cent. by 1911.

And from these it will be seen that production went up considerably in 1902, but price also went up. It went up again in 1905, and again price went up. On the other hand it went down in 1899, and price also went down.

If we pass now to the most important of clothing materials, *viz.*, cotton, the influence of a cause special to that particular commodity is more distinctly marked. It is true that the extraordinarily high prices of raw cotton during particular months—for instance in 1904, and again in 1909—were due in part to cornering operations in America. But it is now recognised that the market speculators who engineered the corners were put in a position to do their disturbing work by the recurrence in America of a number of defective harvests. As the following chart shows, the connection between the price of American cotton and the cotton harvest of the year is a very close one.

The chart simply puts into graphic form the figures published by the United States Department of Agriculture; and it happens to be possible to use the same scale for production reckoned in millions of bales of 500lb. each, and for export price reckoned in cents per lb. The dotted line gives the price; and the correspondence between the depression in price in 1894, 1898, 1904, and 1906, and the large production in those years, is too striking for further comment.

But, as the chart also shows, the price of American cotton, while fluctuating as between one year and another, has on the whole been going up since 1898. The chart does not go beyond 1907. In 1908 prices fell very considerably for a time, but in 1909 and the early part of 1910 they rose again to the highest level of 1904. And it is now generally believed by Lancashire cotton experts that—with occasional exceptional years—there has come to be a more or less chronic shortage in the supply of American cotton. It is not clear that there has been any actual decline in American production itself, even relatively. The Secretary of the U.S. Department of Agriculture reckons that the average production of the five years ended 1908 was 53 per cent. greater than that of the five years ended 1896. But with the growth of cotton manufactures in America and on the Continent of Europe, England is suffering more and more from the competition of other buyers, whose demand

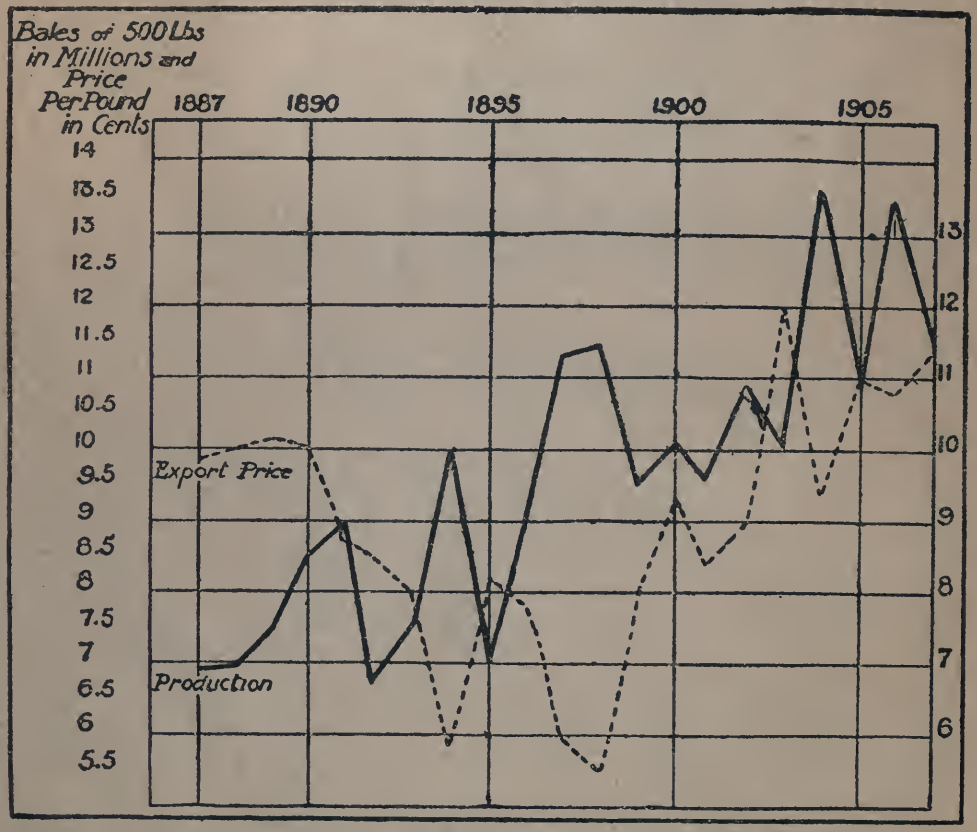

CHART V.—American cotton crop and export prices (1887-1907).

is growing more rapidly than her own. For, while our consumption of raw cotton increased between 1891-95 and 1906-8 from 1,579 million pounds to 1,887, the increase of the United States was from 1,261 to 2,319, and of the Continent of Europe from 1,906 to 2,877lb.

Cotton naturally suggests meat in this connection, for in both cases there is a popular impression that the price is artificially controlled. The probability seems the greater in the case of meat; for while there is in the cotton market no permanent combination of dealers, but only individuals who attempt from time to time to engineer a corner, there is a very powerful combination in America, commonly known as the United States Beef Trust or the Big Six, which has for years been the object of popular animosity, and against which proceedings are just now[10] being taken for the second time by the United States Government. It would be rash, without a very thorough investigation of the whole question, to say what exactly this trust has or has not been doing in America during the last four or five years. But, as it happens, there have been two careful statistical investigations into the high prices of an earlier year—1902; one by the United States Department of Labor in 1902 itself, and a more elaborate one by the United States Bureau of Corporations in 1905. Neither of these offices is in the least likely to be biased in its inquiries in favour of the trusts; indeed, the representatives of the trusts usually look upon them as seeking to ferret out hostile evidence. But both reported that the rise in 1902 was simply due to the natural conditions of supply. In the summer of 1901 there was a great drought all over the Central West; the maize crop was exceptionally poor, and the price of feed rose some 50 per cent. The high price of feed caused fewer cattle to be bought for fattening, and sent a good deal of stock to market in a half-fed condition. As the demand did not fall off, "the price of cattle was forced to the highest level ever known, and the high prices of beef were attributable wholly to these abnormal cattle prices."

As far as I know, there has been no competent investigation in America since 1905. But the high beef prices there and in this country in 1908 led to the appointment of a strong Departmental Committee by the English Board of Trade, which reported in 1909. The result of their very thorough inquiry was the conclusion that "the rise in beef prices which took place towards the middle of 1908 was not due to any arbitrary action on the part of the American firms. The advance was due in the main to a shortage in the supplies coming forward from the United States, and that was the effect of a sharp decrease in the number of cattle available for slaughter in that country. This appears to have been due to the financial crisis of 1907, which compelled the farmers to put their cattle on the market in a less developed state than usual, and to a very pronounced advance in the price of maize."

What, however, the English public is most exercised about just now[11] in the matter of food is the extravagant price of bacon. The upward jump in 1909 and 1910 is sufficiently explained by the remarkable shortage in the foreign supply. Our imports of "pig meat" fell in 1909 to some 6,440,000 cwts., as compared with 7,750,000 in the previous year. But though prices are just now abnormally high, and there have been recent years in which prices have been relatively low, the general trend of the last two decades has been upward. This is clearly brought out in the following table, in which I have placed side by side two sets of index numbers calculated from quite different material by the Board of Trade :—

TABLE VII.

VARIATIONS IN THE PRICE OF BACON.
PRICES OF 1900 = 100.

Wholesale Price Imported Bacon.	Retail Price in London.
1895— 93.5	92.9
1896— 82.7	78.1
1897— 84.9	100.0
1898— 86.6	103.3
1899— 85.8	91.8
1900—100.0	100.0
1901—112.8	113.3
1902—126.4	111.8
1903—126.4	104.4
1904—112.8	108.9
1905—111.3	110.8
1906—126.6	121.1
1907—132.5	120.1
1908—122.0	113.3[12]

And here again the explanation is to be sought in the same direction—at any rate to a large extent. Before the sudden drop in our American and Canadian imports in 1909 there had for some time been a considerably smaller overseas supply than in earlier years. According to the estimates of the Board of Agriculture, the weight of imported pig meat, which in the period 1898-1902 averaged some 8½ million cwts., fell in 1902-3 to 7 millions, and in succeeding years down to 1908 varied only between 7 and 7½ millions.

As a last instance of a commodity whose recent price was evidently dependent in some measure on a cause peculiar to itself, it will be sufficient just to mention rubber. Here the main cause of recent high prices was a shortage of another kind : it was here not so much the supply that had fallen as the demand that had suddenly and enormously increased with the rise of the motor industry and other rubber-using manufactures.

But are these particular explanations, all put together, sufficient to account for the average general rise? I think not, and for this reason—that the rise is not confined to a few such

[10] September, 1910.

[11] September, 1910.

[12] Wholesale Price : 1909, 143.0; 1910, 166.1.

articles as wheat, cotton, bacon, rubber; though it is not absolutely universal, it is very much wider in its scope than the list of the easily explicable cases. In Mr. Sauerbeck's group of "Sundry Materials" (which does not include rubber) the rise is as marked as in the group of "Animal Food." "Minerals" (including iron and coal) have gone up to an even greater extent. Or take the forty-five wholesale commodities whose index numbers are given by the Board of Trade. It is sufficient to glance the eye down the columns, comparing the years before and after 1900, to see that tea, coffee, and wine are almost the only things that have gone down, that a few are stationary in price, but that the great majority have distinctly gone up. There is a very strong presumption, therefore, that some general cause has been at work.

2. Trade Improvement as a Partial Cause.

One quite certain general cause of rising prices is an improvement in trade. It is all very well for certain economists to say that money is merely a set of counters, and that nobody is really better off if he gets twice as much for what he has to sell if he has at the same time to pay twice as much for what he has to buy. Mankind is not philosophical. General low prices are depressing, whether they ought to be or not; a rise in prices—at any rate, while it is taking place and before it has become universal—is a cheering and encouraging thing for the business community generally. So that higher prices are to some extent both a cause and a result of growing prosperity. Because some prices go up, confidence returns and enterprise awakens; and because business begins to thrive, other prices rise as the consequence of a fresh demand. This considerable degree of interdependence between prices and general business conditions is strikingly illustrated by Chart VI.

On the Board of Trade chart of the level of wholesale prices already given (Chart IV.) I have plotted the Board of Trade index numbers for employment down to 1908, the last year available.[13]

The employment index takes the same year—1900—as its standard and calls it 100. It is open to a certain amount of criticism, but, whatever its defects, it is no doubt a fair indication of the variations in employment from year to year. And changes in the volume of employment are, on the whole, the best evidence as to relative business prosperity from year to year.

On comparing these two lines we find that, on the whole, prices have gone up, and have been high (in relation to the period immediately preceding) in those years when the conditions of employment were also comparatively satisfactory.

We all know—at any rate, all who are seriously interested in economic conditions ought by this time to know—that the course of trade and industry is clearly marked by cycles of prosperity

[13] Since this was written, the figures for later years have been published by the Board of Trade, and confirm the argument in the text. They are given further on (Note 14).

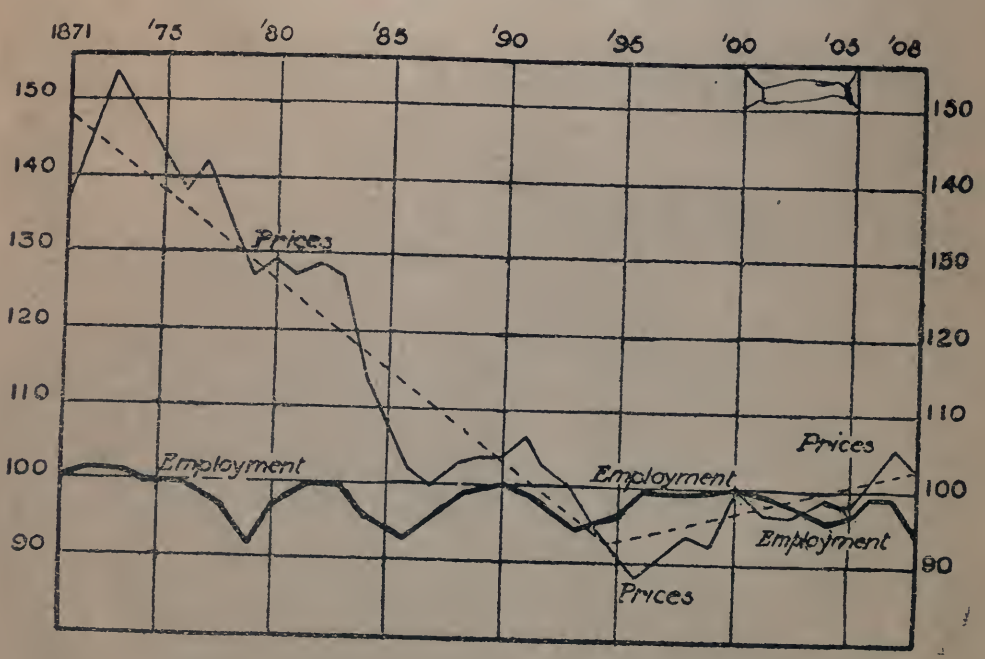

CHART VI.—The Levels of Prices and Employment (1900 = 100).

and depression. The lines upon charts which are constructed to show our foreign trade, the amount of employment, the marriage rate, pauperism, company failures, or even the consumption of beer, are never straight lines running in one direction; they are always wave-like curves with summits of prosperity and troughs of depression all occurring in approximately the same years. The length of the wave—the period separating the bottom of one trough from the bottom of another—was reckoned by the great statistician Jevons as about ten years; in the past half-century, however, it has sometimes been as short as seven (1879-1886) or eight (1886-1894). I cannot now enter into the cause of this mighty fact of trade cycles—the most important fact, perhaps, in the whole of modern industrial life; all we have to do here is to recognise its existence. And on looking at the chart it will be seen that, accompanying the wave-like movement of trade (shown by the line of employment), there is a similar wave-like movement of prices. Each is undoubtedly both cause and effect of the other.

But I am sure that my readers will have been wanting to interrupt, and to point out that, in spite of all we have said, the two lines of prices and employment are as much marked by contrast as by resemblance. The movement in prices from year to year within a trade cycle are, after all, but fluctuations of a line which has its general trend in a particular direction. This is startlingly obvious for the period 1871-1896, where the general trend is indicated roughly by the broken line which I have drawn to assist the eye. There were ups and downs in prices according as trade was good or bad, but the general movement was downward. And although the period 1896-1908 is too short to allow us to draw a confident conclusion, it certainly looks as if the movement were now being reversed. It is a reasonable conjecture that, besides the effects of the trade cycle, there is now some more continuous force operating in an upward direction. As the scale of the chart is too small to bring out quite distinctly the meaning of the recent figures, and the point is one of the highest interest, I will set down the Board of Trade index numbers for the years since 1893 in the form of a table.

TABLE VIII.

EMPLOYMENT AND PRICES.

1900 = 100.

Employment.	Prices.
1893— 94.6	100.0
1894— 95.1	94.2
1895— 96.4	91.0
1896— 99.1	88.2
1897— 99.0	90.1
1898— 99.5	93.2
1899—100.4	92.3
1900—100.0	100.0
1901— 99.1	96.9
1902— 98.2	96.5
1903— 97.4	96.9
1904— 96.0	98.3
1905— 97.1	97.6
1906— 98.7	100.5
1907— 98.5	105.7
1908— 93.6	102.8[14]

Employment, we notice, is pretty steadily improving between 1893 and 1899, but prices remain low. The force creating a general downward trend of prices has apparently not yet ceased to operate. Passing over the year 1900, which all statisticians are coming to regard as curiously exceptional, employment from 1901 to 1904 becomes steadily worse, but prices are stationary for three years, and then rise in 1904. And finally, while employment is practically stationary in 1906-7, prices rise very considerably in 1907, and when employment drops off a good deal in 1908 the fall in prices is noticeably less. We must not press these figures too hard. Carefully as the index numbers have been drawn up, variations of 2 or 3 per cent. are not sufficiently certain to support a confident conclusion. But, so far as they go, their comparison, year by year, does seem to confirm the suspicion that some additional cause is at work independent of the state of trade.

3. Influence of the Increased Gold Supply.

In searching for the additional cause for increased prices independent of the state of trade and of causes affecting particular commodities, history ought to be of some use to us. There have been two previous periods in the world's history when the rise of prices attracted widespread attention. One was the second half of the sixteenth century. The remarkable change in the level of prices which then took place was attributed by contemporary observers to all sorts of causes, some of which may indeed actually have contributed to the movement. The most popular explanation then, as now, was the existence of combinations and monopolies among traders. But it came to be realised, before the end of the century, by exceptionally shrewd observers, that the main underlying cause must have been the enormous new supplies of the metal then used for currency, *i.e.*, silver, from the Spanish mines of the New World; and this has long been the universal conclusion of historians and economists. Much nearer our own days was the rise of prices after 1850; and there are few now who doubt that this was largely, if not entirely, due to the gold discoveries in California and Australia. If the same phenomenon, the sending out into the world of large new

---

[14] Employment. Prices.
1909— 93.6 ..... 104.0
1910— 97.3 ..... 108.8
1911— 109.3

The index number for employment in 1911 is not yet available, but it is notorious that trade was better in that year than in the preceding. The percentage of members of trade unions returned as unemployed fell from 4.7 in 1910 to 3 in 1911.

supplies of the standard money metal, has shown itself in recent years, it seems a legitimate conclusion that it will have had the same result.

We all know that the Transvaal, Western Australia, and the Klondyke have given the world large quantities of the yellow metal. But we seldom realise how prodigious has been the increase in the world's output of gold. In the first half of the nineteenth century the annual produce of the mines amounted to a value of only about two or three millions of pounds. From 1850, owing to the Californian and Australian discoveries, it rose to from 25 to 30 millions. It remained at that figure till 1870; and from 1870 to 1890 it tended to decline. But from 1890 it began to rise, first slowly, and then, as the years went on, at an increasing pace. Much the largest source of supply has, of course, been the Transvaal, and the South African war caused a temporary set-back. But the movement was resumed at an even greater pace in 1904, with the result that the estimated value of the output of 1909 [15] was over 92 millions of pounds, *i.e.*, between three and four times as much as California and Australia produced in the days of the gold mining mania. The figures for the last two decades are so astounding that I have thought it well to set them down in the following table :—

TABLE IX.

THE WORLD'S GOLD OUTPUT.

	Millions of Pounds.		Millions of Pounds.
1890.....	24.6	1900.....	62.3
1891.....	27.0	1901.....	51.8
1892.....	30.4	1902.....	52.2
1893.....	32.6	1903.....	59.8
1894.....	37.5	1904.....	65.9
1895.....	41.2	1905.....	75.7
1896.....	42.1	1906.....	81.0
1897.....	49.3	1907.....	82.7
1898.....	59.5	1908.....	87.2
1899.....	62.5	1909.....	92.1[16]

The exact stages of the process by which an increase in the precious metals affects prices are still the subject of discussion among economists. I will not enter into the thorny field of monetary theory, nor do more than point to the obvious likelihood that an addition to the world's currency will cause more on the average to be given in each transaction of purchase, if the number of transactions remains the same. The difficulty in testing this expectation is due to the fact that the number of transactions never does remain the same. Larger supplies of gold themselves stimulate trade and increase the amount of work to be done by the money, and so tend to restrict the range of their own effect on prices.[17] But that they have an effect on prices can hardly be doubted, when we compare the inherent likelihood of the situation with the two pieces of historical experience to which I have referred. And there is this further confirmation of the view in its bearing on present conditions. The economist Cairnes argued long ago that a rise in price due to an increased supply of gold would probably be greater in the case of raw materials than in that of manufactured commodities, because raw materials could not so quickly respond to the stimulus to increased production which higher prices bring with them. I know of no attempt to distinguish between raw and manufactured commodities in recent English price statistics; but the statisticians of the American Department of Labour have made the effort, and their figures show that in America, at any rate, the rise in the prices of raw commodities between 1900 and 1908 was actually considerably greater than that of manufactured goods.[18]

How great precisely the effect of the new gold has been—how large a part of the 18 per cent. rise[19] is to be attributed to that one cause—is

[15] See next Note.

[16] 1910..... 93.6

[17] I have left these sentences as they were written in September, 1910. Subsequent consideration has led me to the conclusion that the most direct and immediate way in which supplies of gold now affect prices in this country is by adding to the gold reserves of the banks. This enables them to lend on easier terms; and this again, by encouraging enterprise, leads to a greater demand for commodities and to a rise of prices. It must, of course, be borne in mind that the actual medium of circulation in the business of this country is coming to be more and more the cheque. The whole mass of currency, in the widest sense, including cheques and bills as well as the relatively insignificant quantity of notes, rests, however, on the basis of the available gold. We cannot, indeed, in my opinion, suppose any precisely necessary proportion between the basis and the superstructure; at one time the superstructure may be relatively larger than at another, and its size is clearly due in part to the contemporary range of prices. But it does not follow from this that some gold basis, adequate for the time, is not necessary; nor that the superstructure does not, as a rule, expand—so to speak—with the expansion of the basis.

[18] The movement in the prices of the more finished forms of manufacture is a subject which still awaits separate treatment. During recent years it has been a common complaint of manufacturers in certain districts that they were unable to sell their goods at prices commensurate with the higher cost of material. But these complaints seem to have died away during 1911, owing to the fact stated in the *Birmingham Daily Post's* survey of the trade of the year that "prices have gradually been adjusted and brought into harmony with the increased costs of production."

[19] Or, as we may now (January, 1912) say, the 24 per cent. rise. See the next note.

a question which we can hardly hope to solve at present. We have not, so far, a sufficiently long period under observation to be able by comparison to isolate the effect of a single phenomenon. Our only help is the very feeble assistance of history. The stream of silver from the American mines in the sixteenth century has been reckoned at some twenty or twenty-five times as large as the previous European production, and the consequent rise in prices was as much as 200 per cent. When gold in its turn was becoming the world's standard, in the years following 1850. the supplies of gold were some ten times as great as they had been just before; but, according to the calculation of Jevons, the consequent rise in price did not amount to more than some 18 per cent. However we may explain it—whether it was due simply to the vastly larger mass of the standard metal already in circulation, or to the introduction of other forms of currency besides metal—the effect was far less in the years after 1850 than in those after 1550.

In the half-century that has since elapsed the mass of circulating metal has further increased, and means of exchange other than the metallic currency have also become much more widely used. On the other hand, it is conceivable that the disuse since 1850 by all the great countries of the world of silver as a standard may have made prices more sensitive to the influence of the gold supply. If we regard these considerations as counterbalancing one another, and reflect that, instead of an increase in the output of some ten times, the increase in recent years is only about three times, we may hazard what can hardly be more than a mere conjecture, that out of the 18 per cent. recent rise perhaps some 5 per cent. may be put down to the new gold supplies.[20]

[20] By 1911 the rise of wholesale prices, according to the Board of Trade's calculation, was from an index number 88.2 for 1896 to an index number 109.3, *i.e.*, almost 24 per cent. That of retail prices of food in London was from 92 to 109.3 (this latter a curious coincidence with the wholesale index number, considering that both take the year 1900 as their standard year), *i.e.*, a rise of almost 20 per cent. The conjecture that 5 out of the 18 per cent. rise visible by 1909 was due to the effect of gold was meant to be well within the mark, but is now seen to be a gross underestimate. A more exact estimate may perhaps be reached on the basis of the Wholesale Prices Index by comparing the minimum point, 1896, in the price-cycle, 1891-1900 (see Chart VI.), with the minima, 1902 and 1908, in the subsequent period, so as to eliminate from each the effect of a wave of prosperity. This shows a rise of over 9 per cent. by 1902, and of between 16 and 17 per cent. by 1908, probably ascribable to the new gold supplies.

Section III.

The Question of Remedy.

Summing up the conclusions of the preceding sections, they would seem to be these: that the rise in prices is partly due to a cause special to certain particular leading commodities, *viz.*, a shortage in supply [21]; partly to a cause special to a particular series of years, *viz.*, an improvement of trade; and partly to a cause affecting all commodities, more or less, since about 1897 or '98, *viz.*, the new supplies of gold. Any part that trusts may have played must be regarded as so small as to be almost negligible. Of the three causes or sets of causes, the first two may be regarded as in a sense transitory. An increase of price due to defective supply tends to increase the production, and so to bring down price again. The sow, for instance, is so very prolific an animal that we can hardly doubt that after a comparatively short time the pig production of the world will catch up with the demand for bacon.[22] The readjustment may not be so easy to effect in commodities like cotton (and possibly wheat), where we have become dependent on foreign sources of supply, which are increasingly drawn upon by consumers in the country of origin as well as in other foreign countries. It is very possible that we may never see again in our time quite such low prices of wheat as we were becoming accustomed to a few years ago.

As to cotton, the efforts of the British Cotton Growing Association are in the right direction; but the experience of India in the years following the cotton famine of 1862 is sufficient to show that, so long as recurring periods of low American prices can divert the demand of Lancashire from new and struggling sources of supply, the progress of the Association is not likely to be great.

The second cause of high prices—a wave of prosperity—we cannot unfortunately expect to continue. The rhythmic cycle of enterprise and full employment, stagnation and distress, we are not likely to see disappear in our lifetime, though something is possible by measures of insurance in the way of making the good years help us over the bad. As to the third cause, the gold supply, we do not know how long it is going to continue nor how great will be its

[21] The operation of temporary special causes has been more recently illustrated by the effect, especially on dairy products, of the summer drought of 1911.

[22] It is apparently already beginning to do so. The wholesale price of bacon fell some 14 per cent. in 1911 and the retail price some 7 per cent.

effect.[23] But supposing it does continue, and does have a considerable effect, is it a thing to be deplored? Is a "remedy" needful? This is a question which Jevons dealt with in a masterly way seven and forty years ago; and there is even now little to be added to his conclusions.

On the whole, he concluded, "a fall in the value of gold"—which is only another phrase for a rise in money prices—"must have a most powerfully beneficial effect on the community." We may go on to say of the Transvaal supply what Jevons said of the Australian: It has already had a beneficial effect. The remarkably rapid recovery during 1909 both in England and in America—one a Free Trade and the other a Protectionist country—from the depression of 1907-8 is more than plausibly assignable to the effect of the great stream of South African gold. The benefit to the community generally, due to the stimulus to enterprise, far outweighs the detriment (which undoubtedly is only too real in itself) to the holders of fixed incomes.

All incomes, not absolutely fixed, will adjust themselves in course of time to the new level of prices. The adjustment will not always be easy, and the difficulties which arise in the process are to be reckoned as so much drawback to the general and ultimate advantage. In the sixteenth century the price which most slowly responded to the general movement was the price of labour. And it is generally agreed that there resulted a real lowering of the standard of comfort of those dependent on wages. In the nineteenth century working men had become more able to take care of themselves. Yet the great strikes for higher wages in the sixties, which were probably, in part, the result of the higher prices due to the gold discoveries, though they had a large measure of success, were the inevitable occasion of a vast amount of bitterness. The position of labour is to-day very much stronger. Even in Germany, where labour is not so well organised, a rise in the cost of living between 1895 and 1908 of some 27 per cent. was accompanied, in the case of some of the great unions, by a rise in wages of more than 39 per cent.

In the recognition, now universal, of the principle of collective bargaining, and in the machinery of Wages Boards in all the great industries are to be found the means, better established in this country than in any other, for the adjustment of remuneration to the prices of product. What the industrial population of the country needs, especially in a period of rising prices, is a strongly organised and well disciplined trade unionism. A revolutionary and unbusinesslike unionism, full of theories of class war, and ever ready to be diverted from the industrial to the political field, has its attraction, no doubt, for some. Collective bargaining is at best a clumsy instrument. But it would seem to be a pity to throw it away just now, when it is likely to be so necessary, unless we can be very sure that we can find something more effective for the purpose.[24]

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[23] It is unsafe to prophesy; but it is not improbable that this effect will shortly begin to diminish, if it has not already done so. According to Mr. Sauerbeck's calculations, the level of prices, after rising from 1851 to 1857, continued unchanged, except for fluctuations (some of them, it is true, considerable) until the next notable upward movement in 1871-3; and this in spite of the fact that the gold output remained practically constant throughout the period 1850-1870. It may, indeed, *a priori* be expected that the same annual increment, added to a growing stock, would have a lessening effect; not to mention the likelihood that the psychological influence of the fresh supplies (referred to in Note 17 above) will be most marked at the beginning.

It is not improbable, also, that the displacement of silver by gold in the hoards of India and other Eastern countries—which has apparently already begun—will continue on a larger scale, and diminish, to a quite considerable extent, the quantity of the yellow metal available as currency, or as the basis of credit, in Europe and America.

The annual output may go on increasing; though it is observable that the pace was distinctly slackened in 1910. According to some figures in the *Times* of January 2, 1912, from an apparently well-informed correspondent in the Transvaal, the yield of gold per ton milled on the Rand fell steadily from 35.8 shillings in 1905 to 27.9 shillings in the first nine months of 1911. Working costs were also reduced, and for a few years in even greater proportion, so that working profit rose; but since 1908 it has been found impossible to reduce costs any further, and working profits have fallen from 13.39 shillings to 9.66 shillings per ton.

Even if the output of gold from the present sources becomes stationary or dwindles, it is, of course, always possible that new deposits may be found, or cheaper processes discovered of extraction. But with the growth of the world's stock of gold on the one hand, and the increased use of non-metallic forms of currency on the other, the possible effect of future large finds would seem to be a diminishing quantity.

[24] How far wages may have failed, if at all, during the last fifteen years, to keep pace with the increased cost of living, would be a subject for a separate investigation. Writing in January, 1912, one would naturally lay more stress than in September, 1910, on the industrial disturbances, for which, with or without reason, some explanation has been sought in the rise of prices. The recent experience of this country would certainly suggest that Governments should spare no pains, singly and in concert, to ascertain the facts as to price movements, and to publish them in the clearest and most authoritative form.

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